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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/532,438	12/28/2005	Kevin David Potter	127723-1005	9117

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EXAMINER	
BLOOM, NATHAN J	
ART UNIT	**PAPER NUMBER**
2624	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Examiner-Initiated Interview Summary	Application No.	Applicant(s)	
	10/532,438	POTTER ET AL.	
	Examiner	Art Unit	
	NATHAN BLOOM	2624	

All Participants:

(1) *NATHAN BLOOM*.

(2) *Monique Vander Molen (Reg. 53716)*.

Status of Application: *Pre-Appeal*

(3) *Stuart Latham*.

(4) _____.

Date of Interview: *13 September 2010*

Time: *12:00 PM EST*

Type of Interview:
☒ Telephonic
☐ Video Conference
☐ Personal (Copy given to: ☐ Applicant ☐ Applicant's representative)

Exhibit Shown or Demonstrated: ☐ Yes ☒ No
If Yes, provide a brief description: .

Part I.

Rejection(s) discussed:
Prior art rejection of claim 1 and 35 USC 112 2nd paragraph of claim 1 (vague and indefinite)

Claims discussed:
1

Prior art documents discussed:
Trew, Hu

Part II.

SUBSTANCE OF INTERVIEW DESCRIBING THE GENERAL NATURE OF WHAT WAS DISCUSSED:
See Continuation Sheet

Part III.

☐ It is not necessary for applicant to provide a separate record of the substance of the interview, since the interview directly resulted in the allowance of the application. The examiner will provide a written summary of the substance of the interview in the Notice of Allowability.
☐ It is not necessary for applicant to provide a separate record of the substance of the interview, since the interview did not result in resolution of all issues. A brief summary by the examiner appears in Part II above.

/Vu Le/
Supervisory Patent Examiner, Art Unit 2624
/NATHAN BLOOM/
Examiner, Art Unit 2624

(Applicant/Applicant's Representative Signature – if appropriate)

Continuation of Substance of Interview including description of the general nature of what was discussed: Examiner brought to Applicant's attention that the current claim language doesn't require the first or second estimate to be a fractional value (either estimate or both estimates could be a whole number), and if the values are whole numbers then the limtations of the translating and summing steps that specifically require the use of the measured pixel fractions become indefinite (35 USC 112 2nd paragraph). Specifically, the requirement of a fractional value that does not exist leaves the claim in a state where the limitations (at least the translating and summing steps) are no longer defined. Applicants responded that a whole number could be written as a fraction, meaning that the claim limtations requiring a fractional value could be interpretted as integer values. Alternatively, Applicants suggested that amendments to the claims could be made such that the language of the claim reads "sum of the first estimate" instead of "sum of the pixel fraction" (similarly the suming the pixel fractions limitation could be changed) so that the translating step and summing step no longer specifically require a fractional pixel value.
Furthermore, Examiner believes that, given the currently presented interpretation of the first estimate and/or second estimate as a whole pixel (integer) value, the Hu reference more clearly reads on the current claim limitations. Examiner and Applicant discussed the limitations and prior art, but did not reach an agreement. However, Examiner proposed that an additional interview be conducted after the reiteration of each side's stance on the current claims with respect to the cited prior art reference Hu. Below is a reiteration of the current interpretation of the claim language and the applied art references that have been modified in the interest of clarifying the Office's position.

Instant claim 61: A method for determining coordinates of a feature comprising:
providing a first image including the feature, the first image comprising a plurality of pixels; [Trew has taught in column 2 line 20-37, column 3 lines 65+, and column 4 lines 20-65 the use of an initial template image including the desired feature.]
determining a first estimate of coordinates of the feature to within a fraction [This limitation does not preculde the estimate being an integer value, and thus is currently being interpretted as being an integer value.] of a pixel; [Trew has further taught, in the sections referred to above, the determination of the coordinates of a feature in a series of images, but does not teach a method of correlation wherein coordinates are determined with subpixel precision. However, Hu has taught a method of aligning a selected reference mage block (containing features of the reference image) with a region of a target image (see column 2 lines 31-65). Furthermore, Hu has taught the correlation of the image block (contaning a feature of the reference image) with a target image (containing a region with the same features as those of the reference image block) to determine the position of the feature contained in the reference image block in the target image. In column 2 lines 5-65 the measurement of a coarse (first estimate) and then a fine (second estimate) of the position of the reference feature (represented by the reference block) are determined using correlationa methods. Thus both Hu and Trew have taught the determination of the position of an object (feature) in a target image by utilzing a template or reference object (reference block of Hu) and a method of searching the target image to locate the feature within that image. It would have been obvious to one of ordinary skill in the art at the time of the invention to substitute the feature locating method of Trew with the correlational coarse to fine method of Hu to increase the accuracy of the positional measurement to sub-pixel precision as was taught by Hu. Thus Trew in view of Hu has taught the subpixel positioning of a feature within an image using correlation.]
translating the feature relative to the pixels [Note: The feature described by Trew in view of Hu is both contained in the template or reference block that is described by pixels, and in the target image that is being searched for a position of the feature contained in both reference (template) and target image data. Furthermore, in the method of Hu the reference block containing the feautre s shifted in relation to pixels of the target image after the coarse positional estimate has been performed (first estimate of coordinates).] by a pixel translation value, wherein the sum [This was not noted before, but there is no reference to a "sum" prior to this, and thus there are antecdent basis issues with this claim, "the sum" will be read as "a sum"] of the pixel fraction [As discussed above, the value is an integer value, therefore there is no pixel fraction (35 USC 112 2nd paragraph issue).] and pixel translation value is an integer value [As per the above and below discussion the coarse (first estimate) of the pixel location of the feature is an integer value.]; [Hu teaches in lines 5-20 of column 3 the shift of the measured pixel position to the nearest integer pixel position using the "nearest integer pixel position shift". Thus the shift referred to by Hu is the total shift value that translates the measured fractional pixel value to a "nearest integer pixel". Thus it has been established that Hu teaches shifting of the feature (contained in the reference block of Hu) relative to the pixel values (of the target or first iamge) to the "nearest integer".]

determining a second estimate [Referred to as fractional or coarse estimate.] of coordinates of the translated feature to within a fraction of a pixel; and [Hu teaches in column 3 lines 21-44 the determination of an additional fractional estimate (fine estimate) of coordinates using the translated image.]
summing the pixel fractions of the first estimate with the second estimate to derive a refined estimate of coordinates. [See Hu lines 30-32 of and 38-40 of column 3 ($X\Delta$+Xf = first estimate + second estimate). Therefore, Trew in view of Hu has taught the defninition of a feature within an image (Trew defines template containing desired feature) and the determination of the feature within a seires of images to within a fraction of a pixel.